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CENSUS DATA SHOW TRENDS IN OREGON INDUSTRIES*

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Historically, Oregon has been a producer of raw materials and an importer of manufactured articles. Any serious attempt at self-sufficiency would be senseless; but plans and hopes for a better-balanced economy are entirely reasonable, so long as they take the form of attempts to stimulate the development of industries which fit into the economy of the region. A great deal of energy has probably been wasted in vague and general efforts looking toward "industrial development" without regard to the basic economics of industrial location.

Industrial development is quite largely (but not entirely) a matter of geography. The location of raw materials and markets and the agencies and costs of transportation are the principal ingredients of industrial location. The steel industry has developed where coal and iron ore are in convenient relation to each other, and to available markets. Until it can be shown that such raw materials are economically available and that markets exist where the product can be sold at competitive transportation rates, it is futile to plan for a basic steel industry in Oregon. In short, planning for industrial development in Oregon, if effective, must take into account the law of comparative advantage.

Uneconomic development is a positive disservice to everyone concerned. Oregon is part of the nation and part of the world. The principal determinant of economic health in Oregon is an effectively functioning economy in the United States as a whole. Economic regionalism or provincialism is a contradiction of the whole basis of economic development. What we need is industrial development of a kind that is in harmony with the resources and geographical position of the state.

It is reasonable to suppose that the future industrial expansion of Oregon and the Pacific Northwest will be largely the outgrowth of the industrial activities of the past and present. Those Oregon industries which have shown, over a period of years, a competitive advantage, and have equalled or exceeded the development of the same industries in the United States as a whole would seem to offer the greatest opportunity for the industrial expansion of the state.

This does not mean that new industries will not appear. It does mean that such new industries will probably be small before they are large, and in most cases will develop out of industries which over a period of years

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* This is a portion of a report prepared for the Legislative Interim Committee for the Study of Highway, Road and Street Needs, Revenue and Taxation.

RAW MATERIALS SURVEY WILL AID NORTHWEST INDUSTRY

A. O. BARTELL

Managing Engineer, Raw Materials Survey

You are an industrial engineer. You represent an industry that intends to take advantage of a new market by establishing a factory branch or a plant to manufacture a new product. In selecting a location for your company you need to know—besides population statistics, transportation costs, availability of power, etc.—where and for what price you can get your raw material. Up-to-date and exact figures on power, population, transportation, and cost of site can be quickly gotten from the local chamber of commerce and the utilities. But where can you turn to get down-to-earth information on your raw materials? You can find much excellent general material in the Bureau of Mines bulletins, state geology department bulletins, and government reports such as those published by the Bonneville Power Administration. But the exact information that you need—from whom you can buy your raw materials and what price you are going to have to pay for them—is not found in these bulletins. It was for this reason that the Raw Materials Survey, Inc. was organized—to supply industry with definite basic engineering facts and figures on raw-material sources.

The Raw Materials Survey was organized April 1947. It is sponsored by the chambers of commerce, banks, port authorities, steamship operators, utilities, and industries in the Northwest. The project is incorporated in Oregon on a nonprofit basis, and is governed by a group of fifteen individuals who established the broad policy and program of the organization. In this group there is a representative of the Oregon banks; a representative of the railroads in the territory; a representative of the steamship operators serving the Columbia River ports; a representative of the private utilities; a representative of the port authorities in Oregon; a representative of the port authorities on the Columbia River in Washington; one

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RAW MATERIALS SURVEY WILL AID NORTHWEST INDUSTRY

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representative from each of the following areas in Oregon—coast communities, Portland area, Willamette Valley, southern Oregon, eastern Oregon; one representative from the chambers of commerce in southern Washington; and a representative at large. In addition there are representatives from the Oregon State Department of Geology and Mineral Industries and the Washington State Department of Conservation and Development.

There have been arguments that the lack of raw materials in the Northwest in part offsets the advantages of cheap power. It is the purpose of the Raw Materials Survey to gather data on raw materials needed by present or potential industries of the area, and to disseminate these data by means of factual engineering reports, personal contacts, and correspondence. Such data include present or potential sources, locations, quality, quantities available, prices, methods of transportation, and freight rates. All mineral, chemical, and agricultural raw materials, natural or manufactured, needed by industry are covered.

The work is done on a regional basis. The Raw Materials Survey is promoting the use of Northwest minerals and raw materials. However, its prime function is to locate sources, whether they be from the Northwest, Canada, Alaska, or offshore, that have the proper chemical analysis or physical characteristics and that can be delivered to the manufacturer at a price that will enable him to stay in business. It is the specific purpose of the Raw Materials Survey to inform industrialists everywhere of the sound fundamental possibilities and present realities of the Northwest.

In the short time the Raw Materials Survey has been in operation, raw-material reports have been prepared on silica sand, soda ash, and industrial water supply, as well as memoranda on specific deposits and materials that have been requested by Northwest industries. A directory of Northwest analytical laboratories and a directory of Northwest chemical and metallurgical raw-material producers have been prepared.

The Survey's most-recent publication is an informational circular pointing out exact locations and specific examples of potentially valuable mineral deposits that lie on Oregon and California lands in Oregon. The principal barrier to the growth of the mineral and mining industry in western Oregon is the present policy of the Department of the Interior regarding mineral exploitation of the revested Oregon and California Railroad land grants. Together, these lands represent two and one-half million acres in western Oregon, which is roughly half of the mineralized areas of Jefferson, Jackson, Coos, Curry, and Douglas counties in southwestern Oregon. Every odd section, with few exceptions, throughout southwestern Oregon belongs in the Oregon and California land-grant area. An act of Congress in 1937 put the O. & C. lands on a sustained timber-yield basis. The Assistant Secretary of the Interior in 1941 arbitrarily ruled that mining interfered with the sustained-yield timber program and closed this vast area to mineral prospecting and development. The Raw Materials Survey prepared the informational circular to aid Senator Guy Cordon and Representative Harris Ellsworth in securing passage of their companion bills now pending in the House of Representatives and the Senate. These companion bills would open the O. & C. lands to mineral exploration and development on the same basis as national forest lands.

Besides reports and memoranda on specific raw-material problems, the Survey issues a monthly *News Letter* listing new developments in the raw-materials field.

The Raw Materials Survey intends to hold symposiums on specific raw-material problems when the need for action is great enough to justify obtaining the help of experts in the field. By the time this article is printed, the Survey will have sponsored a symposium on the utilization of Coos Bay coal. Our Coos Bay coal fields, containing a vast tonnage of semibituminous coal and presently well equipped for a large sustained production, is suffering for lack of market. Scheduled speakers at the symposium are: General Thomas M. Robins, president, Raw Materials Survey, Inc.; H. W. Beecher, consulting mechanical engineer, Seattle; Fay W. Libbey, director, Oregon State Department of Geology and Mineral Industries; H. S. McCurdy, consulting engineer, San Francisco; T. O. Toon, president, Coast Fuel Company, Coos Bay; Dean George Gleeson, School of Engineering, Oregon State College; and H. F. Yancey, supervising engineer, Northwest Experiment Station, U. S. Bureau of Mines. Representatives of industry, utilities, banks, government agencies, and coal operators have been invited.

The Raw Materials Survey has been in operation less than a year. While it is too early to fully evaluate in dollars and cents what it has accomplished, there have been several industrial developments due directly to the efforts of the Survey. For example, the silica report was sent to various people around the country who were interested in silica as a raw material. The Carborundum Company of Niagara Falls, New York, responded. They had been looking over the Pacific Northwest for a number of years. Silica in the form of quartz or silica sand is one of their principal raw materials. When they received the report, they sent their principal engineers to investigate this matter with the Survey. The Survey's managing engineer went with them, showed them various deposits of silica, and helped them obtain carload samples. The samples were tested in the Carborundum Company's production furnaces in Niagara Falls and proved satisfactory. The result is that the Carborundum Company is constructing a $2,000,000 artificial-abrasives plant at Vancouver, Washington.

In the Raw Materials Survey there now exists an agency which supplies comprehensive and specific information on raw-material sources needed by industries—an agency that is neither specialized by type of commodity nor circumscribed by geographical boundaries.

The population of Europe more than doubled between 1800 and 1900, increasing from 187 million to 400 million.

INCOME TRENDS IN OREGON AND THE UNITED STATES

RICHARD A. OSBORNE[1]

Income payments—current income received by persons from all sources—are the most-comprehensive indicators of the level of economic activity and of the demand for goods and services in a given area. The growth in Oregon income has more than kept pace with the rise in national income from 1929 to 1946, as indicated in Table 1. In general, this reflects the increased purchasing power and standard of living of Oregon residents, and also indicates that purchasing power in the state has increased faster than in the United States as a whole.

TABLE 1. TOTAL INCOME PAYMENTS TO INDIVIDUALS*

	Index (1935-39=100)		Millions of Dollars	
	Oregon	U.S.	Oregon	U.S.
1929	111	123	$ 603	$ 82,617
1930	96	109	524	73,325
1931	81	92	443	61,971
1932	62	71	338	47,432
1933	61.8	69	337	46,273
1934	74	79	404	53,038
1935	84	87	459	58,558
1936	103	101	560	68,000
1937	106	108	580	72,211
1938	99	98	540	66,045
1939	108	105	587	70,601
1940	116	113	633	75,852
1941	151	138	824	92,269
1942	219	174	1,193	116,433
1943	288	209	1,572	140,021
1944	300	225	1,636	151,217
1945	299	231	1,631	155,201
1946	317	252	1,729	169,373

* Source: U. S. Dept. of Commerce.

Total income payments received by residents of Oregon in 1946 reached a new peak of $1,729 million, over five times the amount of income received in 1933 at the depth of the depression and $600 million greater than total income received in 1929. Since 1933, income payments have increased each year except for a temporary setback in 1938.

Essentially, income payments are the monetary expression of current government and business transactions, and they will vary with the volume of those transactions. When mills and factories are all producing, sales are growing, and all workers are employed, income payments will be high; and, conversely, when demand for goods and services declines, sales fall off, and unemployment occurs, then income payments will decrease. The general trend of income payments is, of course, affected by changes in population; i.e., an increase in population would normally be followed by an increase in the total income payments. The increase in total Oregon income payments has been partly the result of growth in population and partly the result of an increase in per capita income.

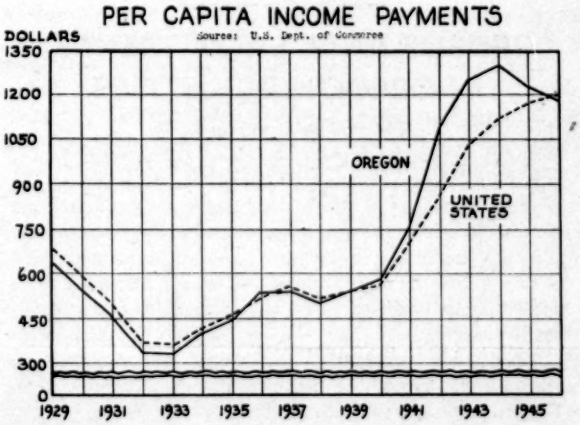
The level of per capita income in Oregon has greatly improved since 1929, not only in an absolute amount but in relation to the national per capita income (see Table 2 and the accompanying chart). From 1929 to 1933, Oregon per capita income was from $40 to $45 less than the national average, though the rate of decline during those years was not as great as the decline in national per capita income. From 1933 to 1944, Oregon per capita income increased (except for one year) at an equal or greater rate than the national figure, and in 1939 rose above national per capita income. United States per capita income in that year was $439 and Oregon per capita income $544.

TABLE 2. PER CAPITA INCOME PAYMENTS*

	Oregon	U.S.		Oregon	U.S.
1929	$640	$680	1938	$ 507	$ 509
1930	547	596	1939	544	539
1931	455	500	1940	579	575
1932	342	380	1941	752	693
1933	337	368	1942	1,075	862
1934	399	420	1943	1,241	1,037
1935	447	460	1944	1,295	1,117
1936	539	531	1945	1,231	1,177
1937	552	561	1946	1,188	1,200

* Source: U.S. Dept. of Commerce.

During the war years the Oregon rate of increase was considerably greater than the national rate and reached a peak of $1,295 in 1944. Since 1944, however, Oregon's per capita income has been decreasing; in 1946 it fell below the national figure, although total state income payments continued to increase. Despite this recent decline, Oregon per capita income is still well above the 1929 figure, and serves as a partial measure of Oregon's economic growth during the period 1929-1946. In 1929, Oregon's economy supported a population of 924,849 with a per capita income of only $640, while in 1946 it supported a population of 1,452,618 and per capita income has risen to $1,188.



These per capita income data are a better measure of welfare than total income payments, since the per capita data take into account changes in population. But, as a measure of the volume of demand for goods and services, the total state income data are the more useful. Per capita data, however, may be of use in estimating the character of future demand. During a period when per capita income is declining, the consumer may be expected to spend less for nonessential items than when per capita income is at a high level. In all cases, allowance must be made for changes in the price level.

The composition of current income in Oregon is somewhat different from that of national income payments (see Table 3). Manufacturing payrolls made up 21.3 per

[1] Graduate student in economics, University of Oregon. The article was prepared under the direction of Dr. Paul W. Ellis, associate professor of economics, University of Oregon.

cent of national income payments in 1946 but only 18.5 per cent of Oregon income payments. On the other hand, agricultural income was a considerably larger percentage of Oregon income than of national income—13.5 per cent for Oregon and 9.8 per cent for the entire country. Trade and service income was 28.9 per cent of total Oregon income but only 26.6 per cent of national income payments.

TABLE 3. MAJOR INDUSTRIAL SOURCES OF INCOME PAYMENTS; SELECTED COMPONENTS AS A PER CENT OF TOTAL INCOME*

	Oregon		U. S.	
	1940	1946	1940	1946
Manufacturing payrolls	18.4%	18.5%	20.3%	21.3%
Agricultural income	10.3	13.5	7.2	9.8
Trade & service income	27.4	28.9	25.2	26.6
Gov't income payments	13.0	15.0	12.4	17.0
Other	30.9	24.1	34.9	25.3

* Source: U. S. Dept. of Commerce.

While it is undoubtedly true that there was a significant increase in manufacturing payrolls relative to other sources of income during the war years, it seems apparent that the change has not carried over into the postwar period. Manufacturing payrolls as a percentage of Oregon income payments were only one-tenth of one per cent greater in 1946 than in 1940. While government income payments were a larger percentage of Oregon income in 1946 than in 1940, the increase was not as great as for the nation as a whole. Government income payments in Oregon were 2 per cent larger in 1946 (rising from 13 to 15 per cent of current income), but total government income payments were 4.6 per cent above 1940.

CENSUS DATA SHOW TRENDS IN OREGON INDUSTRIES

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have displayed the capacity to grow and prosper in relation to the development of the same industries in the United States as a whole. Industrial expansion must ultimately follow the direction of comparative advantage. It is of considerable importance to obtain an over-all view of past industrial development and trends, because future development is likely to be an expansion of trends already evident.

This study represents an attempt to measure and appraise the growth of manufacturing in Oregon from 1899 to 1939, and to compare this growth with the growth of manufacturing in the United States as a whole. The study also attempts to measure the growth rate of particular industries in Oregon and to compare this growth rate with that for the same industry in the United States as a whole. Those Oregon industries which have, over the years, demonstrated a rate of growth in excess of the general growth of the industry may be presumed to be those that operate at a comparative advantage in Oregon. Finally, such appraisal and interpretation of probable future development are offered as may appear to be justified by the data available.

MATERIALS AND METHODS

The most-complete data on past industrial activity are contained in the biennial Census of Manufacturers. It is unfortunate that no industrial census has been taken since 1939.[1] But, in spite of the fact that the latest data covers a prewar year, it is worthwhile to examine the record for the purpose of getting an over-all view of industrial trends. While it is impossible to project this census data past 1939, it is possible to measure the approximate changes in some industries on the basis of reasonably up-to-date figures of income payments to individuals, published by the United States Department of Commerce.

Much of the information contained in Census of Manufacturers reports is useless for our purpose. Number of establishments means little, in view of changes in size of typical units and the consolidation trend. Selling value of product is not a particularly good measure of the importance of an industry, since it does not take into account the cost of raw materials. In this study we have used two items from the census reports for measurement of industrial changes. The first one is number of wage earners. This is a direct and simple measurement of the relative importance of industries. The second is "value added in manufacture." This is simply the difference between the value of the product and the cost of raw materials. This differential is the source from which wages and profits must be obtained, and is perhaps the best single expression of industrial changes and relative importance of various industries.

Five basic tables were prepared from the various[2] Census of Manufacturing reports. These basic tables are described below.

Table 1. This table shows the raw data of number of wage earners employed in Oregon industries by census years 1899 through 1939, with industries arranged according to the number of wage earners employed in 1939.

Table 2. This table is designed to measure the relative importance of various Oregon industries on the basis of wage earners employed. The data are in the form of percentages of wage earners employed in the various industries to total industrial wage earners in the state in the same year. The arrangement of industries is on the basis of number of wage earners employed in 1939.

Table 3. This table shows "value added in manufacture" for the principal Oregon industries for census years 1899 through 1939.

Table 4. This table is designed to measure the relative importance of various Oregon industries on the basis of value added in manufacture. The data are in the form of percentages of the value added in manufacture in each industry to the total value added in manufacture for all industries in the state for the same years.

Table 5. This table is designed to measure the growth and development of selected Oregon industries relative to the growth of the same industries in the United States as a whole. The data are in the form of percentages of value added in manufacture in each industry in Oregon

[1] An industrial census covering the year 1947 is now being taken by the Bureau of the Census.

[2] 1899, 1904, 1909, 1914, 1919, 1921, 1923, 1925, 1927, 1929, 1931, 1933, 1935, 1937, 1939.

to the national total for the same industry in the United States as a whole for the same years. The table measures what might be termed "comparative advantage."

Census data are available in great detail, and industries are broken down into quite detailed and minute categories. All of this is useful for general purposes, but it appeared to be expedient for the purpose of this study to combine certain census classifications into broad industrial groupings, in order to get a clearer and more-understandable picture of industrial trends. The data shown in the tables follow the census classifications; except that the following combinations have been made:

Lumber and timber products—Sawmills, veneer mills, and cooperage-stock mills; planing mills not connected with sawmills; wooden boxes (not cigar); wood products (not elsewhere classified); logging camps (logging contractors).

Paper and pulp—Paper and paperboard mills; pulp mills; boxes, paper.

Publishing and printing—newspaper and periodical; books, music, and job.

Bread and baking products—bread and other baking products; biscuits, crackers, and pretzels.

Furniture—furniture including store and office fixtures; mattresses and bedsprings.

Meat packing—meat packing (wholesale); poultry dressing and packing (wholesale).

Flour and grain-mill products—flour and other grain-mill products; feeds, prepared, for animals and fowls.

Apparel—knitted wear; workclothing (men's); coats, suits, skirts; men's suits and coats.

Iron and steel and products—foundry and machine-shop products; sheet-metal work; steel work (rolling-mill products); steel castings; foundry parts; construction machinery; boiler-shop products; motor-vehicle parts; machinery; structural and ornamental iron work; stoves and ranges (not electric).

Ice cream and confectionery—ice cream; ice, manufacture; confectionery; candy.

CAUSES OF CHANGES IN MANUFACTURING[3]

There are many causes for changes in industrial activity within a particular state. In the first place they may be caused by increasing regional specialization. Many regions have found it profitable to confine themselves to the production of relatively few articles and to import other necessary articles. It is possible that in recent decades there may have been something of a reversal of the trend toward regional specialization and in the direction of industrial decentralization and despecialization.

Another cause of shifting currents in industrial production is the transfer of productive effort from the home to the factory. It has not been long since the household was an important factor in "production" as well as "consumption." The housewife canned fruits and vegetables and prepared other foods for family use, which she now buys in convenient package form. The clothing which was once manufactured in the home is now made in the factory. The factory has also largely replaced the local artisan in supplying other articles. The local cabinet maker has been displaced by the furniture factory, and the blacksmith by the foundry. Our food, our clothing, our amusements, our means of transportation and communication are to an increasing extent the products of factories.

Another cause of shifts in manufacturing activity is found in interindustry competition for the favor of consumers. New articles are frequently introduced in an attempt to entice the consumer away from established articles and these new products are often the products of other industries. Thus rayon and other synthetic fibers

[3] Adapted from *An Industrial Audit of Oregon*, by O. K. Burrell, University of Oregon Studies in Business, 1930.

TABLE 1*. NUMBER OF WAGE EARNERS EMPLOYED IN OREGON INDUSTRIES, BY CENSUS YEARS 1899 TO 1939; INDUSTRIES ARRANGED ON THE BASIS OF NUMBER OF WAGE EARNERS EMPLOYED IN 1939

	1899	1904	1909	1914	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
1. Lumber-timber products	6,054	8,558	15,066	13,888	27,578	19,069	35,963	33,914	36,449	36,557	20,526	20,715	27,525	38,064	35,059
2. Paper-pulp	.....	698	.....	90	169	125	2,246	1,973	2,024	2,240	2,091	2,165	2,974	3,314	4,665
3. Canning & preserving fruits & vegetables	.....	160	207	417	1,720	1,495	2,580	2,420	2,734	4,101	2,676	2,904	3,841	4,919	4,495
4. Furniture	198	479	635	734	977	921	1,430	1,707	1,570	2,059	1,779	2,073	1,907	2,470	2,232
5. Bread & bakery products	243	430	613	700	1,076	1,250	1,397	1,338	1,296	1,647	1,450	1,476	1,563	1,768	2,096
6. Publishing & printing	840	986	1,459	1,520	1,551	1,658	1,835	1,839	1,746	2,149	1,587	1,287	1,467	1,649	1,476
7. Apparel	171	373	544	.....	534	1,018	413	836	798	1,433	389	370	937	.....	1,466
8. Woolen-worsted goods	469	566	469	648	808	935	1,190	1,184	1,076	977	712	601	1,613	1,144	1,406
9. Butter, cheese, condensed milk	62	130	420	434	595	576	585	581	694	513	440	406	455	504	849
10. Meat packing	172	246	366	442	772	595	742	721	658	646	448	399	672	800	842
11. Flour & grain-mill products	420	456	471	529	991	949	973	937	665	738	749	791	831	933	836
12. Canning & preserving fish	.....	351	454	301	476	361	396	421	402	333	240	432	298	404	731
13. Ice cream & confectionery	142	208	352	510	465	449	443	679	751	673	336	156	355	368	449
14. Concrete products	.....	.....	.....	.....	.....	.....	.....	145	147	.....	.....	.....	.....	310	257
15. Nonalcoholic bev.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	251
16. Shipbuilding & repair	338	169	212	163	2,990	143	260	226	135	325	.....	.....	107	.....	251
17. Iron & steel & products	589	945	1,572	1,402	4,752	2,030	3,210	2,622	2,318	5,153	1,873	.....	1,505	3,261	.....
18. Wood preserving	.....	.....	.....	.....	.....	.....	.....	.....	.....	147	100	150	227	246	.....
19. Signs & novelties	.....	.....	.....	.....	.....	.....	.....	.....	.....	133	.....	76	.....	106	.....
20. Clay products	.....	56	.....	.....	.....	.....	191	225	194	203	.....	.....	.....	178	.....
21. Paints & varnishes	.....	15	.....	18	.....	.....	36	76	68	.....	.....	.....	.....	.....	.....

* Over the period covered by the tables there were numerous changes in census classifications. For the most part these changes did not concern the principal Oregon industries. Because of these changes and because of the fact that each category was made up of a number of subgroups, the data shown for "iron and steel and their products" and "apparel" are probably less reliable than in the case of other industries. In most instances, changes in classification were within the groupings adopted for these tables.

When no data appears in the tables for particular years, this does not necessarily imply that there was no Oregon production in those years. The Bureau of Census is not permitted to publish data where to do so might reveal the output of individual establishments. In general, separate figures are published for each industry and for each state represented by three or more establishments. In some cases, however, one or more establishments produce a large proportion of the combined output of three or more in a particular industry or state, and consequently the data are not published.

are offered in place of silk and cotton, and clay products and building "boards" not made from wood are offered as lumber substitutes. In some instances new products may involve the utilization of the same raw materials as the products displaced. Nevertheless, important shifts in manufacturing are involved. Not all of these shifts in manufacturing activities are given adequate expression in census data. Plywood, for example, is a relatively new product, the demand for which has grown with great rapidity. The increasing substitution of plywood for more-conventional lumber products represents an important shift in manufacturing activity. This new industry was not given a separate census classification until 1939, but was included with "lumber and timber products." Many industries have taken steps to advertise the merits of the industry's product without respect to the merits of individual brands. This battle between industries is increasingly intense, and without doubt is the cause of many of the changes that have taken place in manufacturing activity.

Changes in the volume of manufacture within a state are sometimes a result of governmental undertakings of various kinds. Wars, for example, require changes in the structure of production, and some of these changes may be permanent. The two world wars brought a great development and expansion in the shipbuilding industry in Oregon. In both instances this proved to be a temporary shift in activity; but other war-induced changes may bring permanent changes in manufacturing activity. Governmental building projects such as irrigation systems, dams, etc., greatly stimulate industrial production during the period of construction and have a permanent impact on the structure of production. Changes in import-tariff rates sometimes are followed by correlative changes in industrial production. Sometimes the state or Federal governments have interfered with industrial production in a direct way through the enactment of prohibition laws, labor laws, and subsidies of one kind or another. Price controls necessarily cause both shifts in production and changes in the absolute quantity of production. Changes in the freight-rate structure are likely to be followed by corresponding shifts in manufacturing.

Still another cause of changes in industrial output is found in changes in general business conditions. A decline in factory output from one year to the next may be only a reflection of general business depression. A rapid increase in factory output in Oregon from one year to the next may signify nothing more than general nation-wide prosperity. Certain it is that any study of industrial growth needs to be interpreted in the light of fluctuations that have taken place in general business conditions.

CHANGES IN RELATIVE IMPORTANCE

Changes in the relative importance of Oregon industries are shown in Tables 1, 2, 3, and 4. Tables 1 and 3 show the number of wage earners and value added in manufacture for the period 1899-1938. Tables 2 and 4 show the same information but in percentages, with the annual totals for all Oregon industries as 100 per cent.

In examining Tables 2 and 4, it should be remembered that these tables show only the relative position of the various industries with respect to all industry in the state. For example, in Table 4, printing and publishing is shown as 7.1 per cent in 1899, and 5 per cent in 1939. This does not mean that there was an actual decline in output in this industry, but only that from 1899 to 1939 the printing and publishing industry grew at a lower rate than did all industry in the state.

The following tabulation shows changes in rank order of Oregon industries on the basis of value added in manufacture for the period 1899-1939. In the determination of rank order, "iron and steel and their products" and "apparel" have been eliminated, since these classifications do not represent single industries.

	1899	*1909*	*1919*	*1929*	*1939*
Lumber & timber	1	1	1	1	1
Paper & pulp	..	..	14	2	2
Canning & preserving fruits & vegetables	..	12	5	4	4
Printing & publishing	2	2	3	3	3
Bread & other bakery products	6	4	6	5	5
Furniture	8	9	8	7	6
Woolen & worsted goods	4	10	12	9	7
Meat packing	7	6	9	8	10
Flour & grain-mill products	3	3	4	6	9
Butter, cheese, & condensed milk	10	5	7	10	10
Fish canning	..	4	10	13	11

TABLE 2*. PERCENTAGES SHOWING RELATIVE IMPORTANCE OF OREGON INDUSTRIES ON THE BASIS OF AVERAGE NUMBER OF WAGE EARNERS EMPLOYED, BY CENSUS YEARS 1899 TO 1939; TOTAL NUMBER OF WAGE EARNERS IN ALL INDUSTRIES IN THE STATE EQUALS 100 PER CENT; INDUSTRIES ARRANGED IN ORDER OF SIZE IN 1939

	1899	*1904*	*1909*	*1914*	*1919*	*1921*	*1923*	*1925*	*1927*	*1929*	*1931*	*1933*	*1935*	*1937*	*1939*
1. Lumber-timber products	41.9%	46.2%	52.4%	48.2%	47.1%	47.5%	57.4%	56.9%	63.7%	55.8%	48.6%	50.5%	52.7%	57.6%	55.1%
2. Paper-pulp	.....	3.8	.....	.3	.3	.3	3.6	3.3	3.5	3.4	5.0	5.3	5.7	5.0	7.3
3. Canning & preserving fruits & vegetables	.....	.9	.7	1.5	2.9	3.7	4.1	4.1	4.8	6.3	6.3	7.1	7.4	7.4	7.1
4. Furniture	1.4	2.6	2.2	2.5	1.7	2.3	2.3	2.9	2.7	3.1	4.2	5.0	3.6	3.7	3.5
5. Bread & bakery products	1.7	2.3	2.1	2.4	1.8	3.1	2.2	2.2	2.3	2.5	3.4	3.6	3.0	2.7	3.3
6. Publishing & printing	5.8	5.3	5.1	5.3	2.7	4.1	2.9	3.1	3.1	3.3	3.8	3.1	2.8	2.5	2.3
7. Apparel	1.2	2.0	1.9	.....	.9	2.5	.7	1.4	1.2	2.2	.9	.9	1.8	.....	2.3
8. Woolen-worsted goods	4.6	3.1	1.6	2.3	1.4	2.3	1.9	2.0	1.9	1.5	1.8	1.5	3.1	1.7	2.2
9. Meat packing	1.2	1.3	1.3	1.5	1.3	1.5	1.2	1.2	1.1	1.0	1.1	1.0	1.3	1.2	1.3
10. Flour & grain-mill products	2.9	2.5	1.6	1.8	1.7	2.4	1.5	1.7	1.1	1.0	1.1	1.0	1.3	1.2	1.3
11. Butter, cheese, condensed milk	.4	.7	1.5	1.5	1.0	1.4	1.0	1.0	1.2	.8	1.0	1.0	.9	.8	1.3
12. Canning & preserving fish	.....	1.9	1.6	1.0	.8	.9	.6	.7	.7	.5	.6	1.1	.6	.6	1.1
13. Ice cream & confectionary	1.0	1.1	1.2	1.8	.8	1.1	.7	1.1	1.3	1.0	.8	.4	.7	.6	.7
14. Concrete products	.....	.....	.....	.....	.....	.....	.....	.2	.3	.....	.....	.....	.....	.5	.4
15. Nonalcoholic bev.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.4
16. Shipbuilding & repair	2.3	.9	.7	.6	5.1	.4	.4	.4	.2	.5	.....	.....	.2	.....	.4
17. Iron & steel & products	4.1	5.1	5.5	4.9	8.1	5.1	5.1	4.4	4.1	7.8	4.4	.....	2.9	4.9	.....
18. Wood preserving	.....	.....	.....	.....	.....	.....	.....	.....	.....	.2	.2	.4	.4	.4	.....
19. Signs & novelties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.2	.....	.2	.....	.2	.....
20. Clay products	.....	.3	.....	.....	.....	.....	.3	.4	.3	.3	.....	.....	.....	.3	.....
21. Paints & varnishes	.....	.1	.....	.....	.....	.....	.....	.1	.1	.....	.....	.....	.....	.....	.....

* See note to Table 1.

It is interesting to note that Oregon is now as dependent upon the lumber industry as at any time in her history. In 1939, 55.1 per cent of industrial workers were employed in this industry. The rapid rise of the paper and pulp industry after 1921 is another significant development shown by the data in the tables. In 1921 the total value added in manufacture in this industry was less than a quarter of a million dollars, but from that point the industry expanded rapidly, and in 1939 was second only to the lumber industry. The rapid rise in the canning and preserving of fruits and vegetables and the more-moderate rise in the relative importance of the furniture industry are also noteworthy.

The service industries, i.e., those industries that from their nature largely serve local needs have tended in general to remain about constant in relative importance. These industries include printing and publishing, bread and bakery products, and perhaps meat packing.

Such industries as fish canning and flour milling have declined in relative importance. Such declines do not necessarily mean that in these industries Oregon production declined relative to the national totals for the same industries. In the case of flour milling, for example, the decline in relative importance in Oregon is merely a reflection of the decline in the relative importance of this industry in the United States as a whole. The failure of the industry to maintain its relative importance is due, probably, to the fact that flour is a basic necessity and increases in prosperity and purchasing power do not induce additional consumption.

COMPARATIVE INDUSTRIAL ADVANTAGE

Table 5 shows Oregon's share in the national total of value added in manufacture for the principal Oregon industries. In general, it may be supposed that those Oregon industries that have shown a greater growth than that shown for the same industries in the United States as a whole are those that have a comparative advantage in this region. These are the industries that may be expected to continue to make progress.

The past is, of course, not an entirely accurate guide to future expansion. New forces are constantly entering the economic picture and these require detailed consideration and appraisal. The past, however, cannot be ignored. This study does not purport to finally answer the question: What industries offer the greatest opportunity for expansion? The only thing that can be said is that, on the basis of the past record, here are certain industries that have seemed to enjoy a comparative advantage in this area.

The data in Table 5 are in the form of percentages of value added in manufacture for Oregon industries to the total value added in manufacture for the same industries in the United States as a whole.

It should be emphasized that changes in the data show only changes in Oregon's share of the industry in the United States as a whole, and reveal nothing with respect to the absolute quantity or even of the dollar value of goods manufactured. For example, in the fish-canning industry the relative share of Oregon producers was 11.3 per cent in 1904 and 8.6 per cent in 1939. Nevertheless, the total value added in manufacture in Oregon fish canneries in 1904 was $902,000 as compared with $2,158,000 in 1939. The change in the percentage shows merely that the fish-canning industry in Oregon grew less rapidly than the industry in the United States as a whole.

The following tabulation shows the industries that have had the greatest growth, relative to the growth of the same industry in the United States as a whole. These

TABLE 3*. VALUE ADDED IN MANUFACTURE BY OREGON INDUSTRIES; BY CENSUS YEARS 1899 TO 1939; VALUE ADDED IN MANUFACTURE EXPRESSED IN THOUSANDS OF DOLLARS; INDUSTRIES ARRANGED IN ORDER OF SIZE IN 1939

	1899	1904	1909	1914	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
1. Lumber-timber products	$ 5,890	$ 9,687	$17,787	$16,518	$ 57,740	$37,553	$ 89,131	$ 75,603	$ 69,315	$ 99,331	$ 39,407	$31,001	$ 50,153	$ 78,416	$ 82,495
2. Paper-pulp	.....	34	.....	146	281	226	4,743	5,050	10,041	13,666	9,169	8,244	6,704	11,796	9,706
3. Publishing & printing	1,120	2,118	3,938	4,291	6,903	7,486	8,514	9,921	10,668	11,690	9,063	6,279	8,128	12,339	8,168
4. Canning & preserving fruits & vegetables	.....	117	118	493	4,050	2,709	5,044	4,504	4,692	8,503	4,652	4,490	6,304	9,061	8,131
5. Bread & bakery products	314	629	1,208	1,446	3,322	4,191	4,635	4,641	4,823	5,307	4,595	3,200	4,087	5,649	5,776
6. Furniture	136	511	749	887	2,166	2,476	3,505	4,612	4,390	4,723	3,606	2,889	2,948	5,177	4,523
7. Flour & grain-mill products	956	1,227	1,224	1,617	5,323	3,123	3,738	4,037	2,692	4,753	3,399	4,935	4,941	4,389	4,437
8. Woolen-worsted goods	432	538	402	758	1,410	1,747	2,221	2,576	2,268	2,837	1,089	788	2,612	1,444	2,860
9. Butter, cheese, & condensed milk	130	268	968	1,064	2,526	2,151	2,355	2,416	3,345	2,792	1,685	1,650	2,553	2,478	2,609
10. Meat packing	279	517	865	1,284	2,119	2,936	2,360	2,417	2,433	3,150	1,895	1,553	1,833	2,585	2,264
11. Canning & preserving fish	.....	902	902	1,054	1,867	1,769	2,220	1,777	1,778	1,532	829	1,126	1,342	2,055	2,158
12. Ice cream & confectionery	210	414	847	1,198	1,425	1,602	1,591	2,512	3,172	2,710	1,949	958	1,097	1,325	1,403
13. Apparel	58	244	367	.....	776	2,288	257	2,115	1,732	2,697	545	461	674	1,101	1,248
14. Nonalcoholic bev.	.....	.....	.....	.....	.....	.....	428	447	334	479	302	.....	207	485	941
15. Wood preserving	.....	.....	.....	.....	.....	.....	408	.....	551	735	360	301	467	553	684
16. Signs & novelties	.....	.....	.....	.....	.....	.....	.....	.....	.....	612	.....	.....	408	537	568
17. Shipbuilding & repair	347	174	273	217	6,924	340	874	427	338	.....	.....	.....	.....	.....	505
18. Concrete products	.....	.....	.....	.....	.....	.....	.....	567	471	.....	197	.....	122	401	407
19. Iron & steel & products	781	1,276	2,660	2,524	16,115	5,398	8,225	7,952	6,777	13,767	4,884	3,104	5,348	10,054	.....
20. Clay products	.....	.....	.....	.....	.....	.....	481	648	458	499	.....	.....	.....	.....	.....
21. Paints & varnishes	.....	78	.....	38	.....	.....	261	469	527	507	.....	.....	.....	.....	.....
Total	$10,653	$18,734	$32,208	$33,535	$112,947	$75,995	$140,991	$132,691	$130,805	$179,849	$ 87,626	$70,979	$ 99,928	$149,845	$138,883
All other industry	5,150	6,194	10,244	12,969	47,629	23,998	26,802	26,642	24,276	26,701	23,366	15,574	20,646	19,211	33,291
Full total	$15,803	$24,928	$42,452	$46,504	$160,576	$99,993	$167,793	$159,333	$155,081	$206,541	$110,992	$86,553	$120,574	$169,056	$172,174

* See note to Table 1.

are the industries that, on the basis of the past record, have a comparative advantage in this area. The figures are Oregon's percentage share of the national total for the industry:

	1899	*1909*	*1919*	*1929*	*1939*
Lumber & timber products	1.4%	2.7%	4.7%	8.2%	12.2%
Canning & preserving fruits & vegetables	..	.3	2.1	3.0	3.5
Paper & pulp	..	..	.1	2.2	1.5
Furniture	.2	.5	1.2	.7	1.0
Woolen & worsted goods	.5	.3	.4	.9	1.0

THE PATTERN OF INDUSTRIAL DEVELOPMENT

The data presented and discussed above makes it reasonably clear that there is a pattern of industrial development in Oregon. That pattern is one of development along the lines of its raw-material resources. Oregon, perhaps to an even greater extent than some other states, is a prisoner of its geography. The consistent pattern of development since 1899 has been that of comparative advantage and greater relative expansion of those industries that utilize the raw-material resources of the state Lumber products, fruit and vegetable canning, paper and pulp, furniture, and woolen goods are the industries that have made up an increasing share of Oregon industrial activity.

There seems to be little reason to suppose that this pattern will undergo any fundamental change. Changes in industry will, of course, occur; but the pattern of change is likely to remain. We may look for industrial development to those industries that have, over the years, demonstrated comparative advantage.

This does not mean that Oregon is forever doomed to the role of an exporter of industrial raw material in the form of lumber. There has been in recent years a considerable development of lumber remanufacturing, or more-intensive manufacture based upon lumber. Plywood is perhaps the outstanding illustration of this development, but many other products might be mentioned, such as wallboard, mill work and doors, prefabricated housing and construction, and miscellaneous small articles made from wood. Whether such chemical products as alcohol can be economically and competitively produced from wood waste remains to be demonstrated; but the utilization of wood waste in other ways, such as molded- and pressed-board products, has been demonstrated and only awaits commercial exploitation.

A great deal remains to be done in the direction of development of methods of large-scale production in housing, and this development will probably result in greater intensity of manufacture of lumber. Much of the manufacture of window frames, doors, etc. is now done at the point of construction. There are many obstacles to overcome before this manufacturing is done on a mass-production basis and in the area where lumber is produced. The prejudices of local contractors and building trades is one of these obstacles. Another is the standardization of sizes. Still another is the development of eco-

TABLE 4*. PERCENTAGES SHOWING RELATIVE IMPORTANCE OF OREGON INDUSTRIES ON THE BASIS OF VALUE ADDED IN MANUFACTURE, BY CENSUS YEARS 1899 TO 1939; TOTAL VALUE IN MANUFACTURE IN ALL INDUSTRIES IN THE STATE EQUALS 100 PER CENT; INDUSTRIES ARRANGED IN ORDER OF SIZE IN 1939

	1899	*1904*	*1909*	*1914*	*1919*	*1921*	*1923*	*1925*	*1927*	*1929*	*1931*	*1933*	*1935*	*1937*	*1939*
1. Lumber-timber products	37.1%	38.8%	41.9%	35.5%	35.9%	37.5%	53.1%	47.5%	44.5%	48.1%	35.5%	35.8%	41.6%	46.4%	47.9%
2. Paper-pulp	.....	.1	.....	.3	.2	.2	2.8	3.2	6.5	6.6	8.3	9.6	5.6	6.9	5.6
3. Canning & preserving fruits & vegetables	.....	.5	.3	1.0	2.5	2.7	3.0	2.8	3.0	4.1	4.2	5.2	5.2	5.4	4.7
4. Publishing & printing	7.1	8.5	9.3	9.2	4.3	7.5	5.1	6.2	6.9	5.7	8.2	7.3	6.7	7.3	4.7
5. Bread & bakery products	2.0	2.5	2.8	3.1	2.1	4.2	2.8	2.9	3.1	2.6	4.1	3.7	3.4	3.3	3.4
6. Furniture	.9	2.0	1.8	1.9	1.4	2.5	2.1	2.9	2.8	2.3	3.2	3.3	2.4	3.1	2.6
7. Flour & grain-mill products	6.0	4.9	2.9	3.5	3.3	3.1	2.2	2.5	1.7	2.3	3.0	5.7	4.1	2.6	2.6
8. Woolen-worsted goods	2.7	2.2	1.0	1.6	.9	1.8	1.3	1.6	1.5	1.4	1.0	.9	2.2	.9	1.7
9. Butter, cheese & condensed milk	.9	1.1	2.3	2.3	1.6	2.2	1.4	1.5	2.1	1.3	1.4	1.9	2.1	1.2	1.5
10. Meat packing	1.8	2.1	2.0	2.8	1.3	2.9	1.4	1.5	1.6	1.5	1.7	1.8	1.5	1.5	1.3
11. Canning & preserving fish	.....	3.6	2.1	2.3	1.2	1.8	1.3	1.1	1.1	1.2	.7	1.3	1.1	1.5	1.3
12. Ice cream & confectionary	1.3	1.7	2.0	2.6	.9	1.6	.9	1.6	2.0	1.3	1.7	1.1	.9	.8	.8
13. Apparel	.4	1.0	.9	.....	.5	2.3	.2	1.3	1.1	1.3	.5	.5	.6	.7	.7
14. Nonalcoholic bev.	.....	.....	.....	.....	.....	.....	.3	.3	.2	.2	.3	.....	.2	.3	.5
15. Wood preserving	.....	.....	.....	.....	.....	.....	.3	.4	.2	.2	.3	.3	.4	.3	.4
16. Signs & novelties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.3	.....	.....	.3	.3	.3
17. Shipbuilding & repair	2.2	.7	.7	.5	4.3	.4	.5	.3	.2	.....	.....	.....	.....	.....	.3
18. Concrete products	.....	.....	.....	.....	.....	.....	.....	.4	.3	.....	.2	.....	.1	.2	.2
19. Iron & steel & products	4.9	5.1	6.3	5.4	10.0	5.4	4.9	5.0	4.4	6.7	.....	.....	4.4	5.9	.....
20. Clay products	.....	.....	.....	.....	.....	.....	.3	.4	.3	.2	.....	.....	.....	.....	.....
21. Paints & varnishes	.....	.3	.....	.1	.....	.....	.2	.3	.3	.2	.....	.....	.....	.....	.....

* See note to Table 1.

TABLE 5*. GROWTH OF OREGON INDUSTRIES RELATIVE TO GROWTH OF SAME INDUSTRIES IN THE UNITED STATES; PERCENTAGE OF VALUE ADDED IN MANUFACTURE IN OREGON TO NATION'S TOTALS FOR SAME INDUSTRIES

	1899	*1904*	*1909*	*1914*	*1919*	*1921*	*1923*	*1925*	*1927*	*1929*	*1931*	*1933*	*1935*	*1937*	*1939*
Lumber-timber products	1.4%	1.8%	2.7%	2.7%	4.7%	4.8%	6.8%	6.1%	6.5%	8.2%	8.6%	9.5%	10.4%	11.3%	12.2%
Canning & preserving fruits & vegetables	.....	.3	.3	.7	2.1	2.1	2.3	2.0	2.1	3.0	2.4	2.6	2.6	3.8	3.5
Printing & publishing	.4	.6	.8	.7	.7	.6	.6	.6	.6	.6	.5	.5	.6	.7	.5
Paper-pulp	.....	.....	.....	.1	.1	.1	1.0	1.0	1.8	2.2	1.9	2.1	1.4	1.8	1.5
Bread & bakery products	.4	.6	.8	.7	.8	.9	.8	.8	.7	.7	.7	.7	.7	.8	.7
Furniture	.2	.4	.5	.5	1.2	.7	.7	.8	.7	.7	1.0	1.4	1.0	1.1	1.0
Woolen-worsted goods	.5	.5	.3	.6	.4	.5	.5	.8	.7	.9	.5	.4	.9	.5	1.0
Flour & grain-mill products	1.3	1.3	1.1	1.3	2.1	1.7	2.3	2.3	1.2	1.8	1.8	2.9	2.5	2.1	1.8
Butter, cheese & condensed milk	.8	1.1	2.5	2.7	1.8	1.7	1.6	1.9	2.1	1.6	1.4	1.4	1.9	1.8	1.9
Meat packing—wholesale	.3	.5	.5	.6	.5	.9	.6	.6	.6	.7	.5	.5	.5	.6	.5
Canning & preserving fish	.....	11.3	8.2	8.1	7.2	12.6	11.1	8.1	8.1	5.5	5.9	8.0	6.4	8.2	8.6

* See note to Table 1.

nomical methods of crating and transportation. But the fundamental economies seem to point to large-scale manufacture of these articles where the raw material is located.

Unfortunately the data available in the Census of Manufacturers provide only a partial clue as to the extent of such manufacturing in Oregon. The census classification is "planing mill products not made in planing mills connected with sawmills." The output of planing mills operated in connection with sawmills is included in the general "lumber and timber products" classification. Nevertheless, it is of interest to note that in 1939 Oregon was only sixteenth among the states in value of products, and that its production was exceeded by such states as Iowa, Illinois, and Ohio.

1927

1.	California	$59,414,000
2.	New York	52,403,000
3.	Illinois	49,172,000
4.	Pennsylvania	41,827,000
5.	Ohio	31,850,000
6.	Wisconsin	29,448,000
7.	Michigan	26,999,000
8.	Tennessee	24,473,000
9.	Washington	19,587,000
10.	Iowa	17,542,000
11.	Indiana	15,205,000
12.	North Carolina	14,923,000
13.	Georgia	14,510,000
14.	Massachusetts	14,138,000
15.	Alabama	12,934,000
16.	New Jersey	11,883,000
17.	Texas	11,555,000
18.	Missouri	11,357,000
19.	Minnesota	11,233,000
20.	Virginia	11,142,000
21.	Louisiana	10,086,000
22.	Oregon	9,698,000

1939

1.	California	$33,880,000
2.	Wisconsin	19,132,000
3.	Illinois	18,279,000
4.	New York	18,259,000
5.	Iowa	18,080,000
6.	Washington	17,332,000
7.	North Carolina	15,239,000
8.	Pennsylvania	13,862,000
9.	Tennessee	12,623,000
10.	Virginia	10,714,000
11.	Georgia	10,281,000
12.	Ohio	10,163,000
13.	Michigan	9,588,000
14.	Texas	9,313,000
15.	Mississippi	8,782,000
16.	Oregon	8,122,000

The data indicate, however, that between 1927 and 1939 considerable relative progress was made. In 1927 Oregon was twenty-second among the states. Nevertheless, Oregon's output in this phase of lumber remanufacturing is small in relation to that of the states with larger population. Since the freight charge makes up a significant element in the consumer's cost of unprocessed lumber, it would appear reasonable that the manufacturing process should be as nearly completed as possible before shipment.

The reason for this situation is undoubtedly that the manufacture of such planing-mill products as sash, doors, interior woodwork, and molding is still quite largely a local industry. Oregon has an important interest in the conversion of the housing industry to standardization of sizes and mass production methods.

Since it seems probable that a considerable expansion can be expected in the wood-using and lumber-remanufacturing industries, the establishment of a Forest Products Laboratory on the campus of Oregon State College is a significant development. This research facility can be of great importance in the sound development of such industries.

NEW CONSTRUCTION IN THE UNITED STATES, 1947 AND 1948

New construction put in place in the United States during the year 1947 is estimated at $12,878 million, an increase of 30 per cent over the total for 1946, according to the Construction Division, Department of Commerce.

In December 1947 alone, new construction is estimated at $1,215 million, a less-than-seasonal drop of 6 per cent from the revised November figure and a gain of 34 per cent over the volume in December 1946.

The level of new construction in the last two months of the current year gives general support to the estimates for 1948 announced in mid-November. These figures, a joint estimate of the Department of Commerce and the Department of Labor, indicate that total new construction in 1948 will probably reach $15.2 billion, or an 18 per cent gain over the total for 1947. About three-fourths of the total for 1948, or $11,375 million, is expected to be privately financed, the remaining $3,825 million to be publicly financed.

New private construction in 1947, estimated at $9,878 million, showed a rise of 28 per cent in comparison with the corresponding figure for 1946. Of the total for 1947, private residential construction (exclusive of farm) accounted for $4,939 million, a notable rise of 55 per cent.

Private nonresidential building is valued at $3,181 million, a drop of 5 per cent from 1946.

Privately financed public-utility construction in 1947 totaled $1,308 million, a gain of 53 per cent over 1946.

In public construction, the increase over 1946 was somewhat sharper than for private construction as a whole. New public construction, estimated at $3,000 million, was 40 per cent above the 1946 figure.

Public residential building, $175 million, was 55 per cent below the previous year, while public nonresidential building, totaling $517 million, was 62 per cent higher than in 1946.

Public highway construction in 1947 amount to $1,214 million, 72 per cent above 1946.

New conservation and development construction in 1947 is estimated at $381 million, or 59 per cent more than in the previous year.

On a seasonally adjusted basis new construction in both November and December 1947 has been running at an annual rate of $15 billion or more—approximately the rate estimated for next year as a whole. Thus, the estimate of $15.2 billion for 1948 appears conservative, in light of the underlying assumption that no serious recession in general economic activity will take place in 1948.

CURRENT BUSINESS TRENDS IN OREGON

Employment. At the beginning of February there were 50,900 persons actively seeking employment in the state. This was 3,000 fewer than at midwinter in 1947, and 20,000 fewer than at the same time in 1946. This probably marks the peak of the winter decline in employment; it is worth emphasizing that the number of unemployed is the smallest of any postwar winter, despite the continued growth of the number of workers in the state. A slight increase in employment is forecast in the period before April; the increase in the second quarter, however, will be much more pronounced. The fields in which the rise in employment will be greatest will be food processing, lumbering. and construction. The communities that will be most benefited are Astoria, Salem, Freewater, Eugene, Coos Bay, Lebanon, Pendleton, and Hood River. Trade and service lines will not substantially alter the amount of employment offered, but ship-repair employment may decline to still lower levels.

Prices. The most-recent quarterly consumer's price index computed for Portland by the Bureau of Labor Statistics covers prices on January 15 (prior to the break in the commodity markets):

	Jan. 15, 1948 (1935-39=100.0)	Per Cent Change From Oct. 15, 1947 to Jan. 15, 1948	Per Cent Change From Jan. 15, 1947 to Jan. 15, 1948	Per Cent Change From Aug. 15, 1939 to Jan. 15, 1948
Food	223.0	+6.9	+15.7	+132.0
Apparel	190.0	+2.8	.....	+ 88.7
Rent	122.1	+1.1	.....	+ 14.6
Fuel, electricity & ice	125.0	+2.7	+ 1.0	+ 27.0
Gas & electricity	93.1	+1.7	+ 5.2	− 6.0
Other fuels & ice	164.1	+3.3	− 1.7	+ 67.8
Housefurnishings	184.3	+3.5	.....	+ 84.1
Miscellaneous	149.0	+4.3	.....	+ 46.7
All items	174.4	+4.7	.....	+ 74.2

Lumber. The output of the Pacific Northwest Douglas-fir lumber industry is running a little over 10 per cent higher than a year ago. At the end of January, unfilled orders were 6 per cent greater than a month earlier, whereas gross stocks were 5 per cent greater.

Foreign Trade. The Oregon Customs District reports exports of $125.1 million for the first ten months of 1947. In the same period of 1946 exports were $98.6 million. Imports in the first ten months of 1947 were $15.2 million, compared to $9.0 million a year earlier. The extreme one-sided pattern of Oregon foreign trade is a most-serious problem. Until it can be rectified, it will be difficult to obtain adequate steamship service for the ports of the district.

Retail Sales. The value of sales of Portland department stores has been running substantially higher than a year ago; but during February the gap was rapidly closing. On March 13 the sales for the first eleven weeks of 1948 were 9 per cent higher than for the same period in 1947. The sales of department stores in other cities on the Pacific Coast for the eleven weeks ending March 13 were: Los Angeles, down 1 per cent; San Diego, up 8 per cent; San Francisco, up 4 per cent; Seattle, up 1 per cent; Spokane, up 1 per cent; Salt Lake City, up 4 per cent.

The Department of Commerce collects the value of sales of a sample of retailers in many lines of trade in Portland and Union County. The most-recent date for which figures are available is January.

Kind of Outlet	Jan. 1948 from Jan. 1947	Jan. 1948 from Dec. 1947
PORTLAND		
Total	+9	−33
Food stores	−2	−11
Eating & drinking places	−1	−4
General merchandise	+14	−46
Apparel	−1	−49
Furniture-household-radio	+9	−23
Lumber-building-hardware	+17	−2
Automotive	+8	+3
Filling stations	+17	+3
Fuel & ice	+11	+16
Drug stores	+1	−28
Jewelry stores	−16	−72
Miscellaneous	−5	−40
UNION COUNTY		
Total	+13	−9

BANK DEBITS

Bank debits represent the dollar value of the checks drawn against individual deposits. Approximately 90 per cent of all goods, priperty, and services is paid for by check. Bank debits are regarded as indicators of the general trend of business, though their value for this purpose may be impaired by substantial changes in the level of prices. The Bureau of Business Research collects bank debits from 92 banks and branches monthly. On occasion, the totals for the same month in different issues of the *Review* are not directly comparable because of necessary adjustments in basic data.

Marketing Districts	Number of Banks Reporting	Debits Jan. 1948	Debits Dec. 1947	Debits Jan. 1947	Jan. 1948 compared with Dec. 1947	Jan. 1948 compared with Jan. 1947
Oregon	85	$784,037,201	$987,254,409	$854,820,261	−20.6%	− 8.3%
Portland (Portland, Hillsboro, Oregon City, etc.)	26	598,967,942	622,826,460	548,632,120	− 3.9	+ 9.2
Lower Willamette Valley (Salem, McMinnville, etc.)	8	71,855,520	69,645,934	67,103,527	+ 3.2	+ 7.1
Upper Willamette Valley (Albany, Corvallis, Eugene, etc.)	9	80,159,110	82,768,572	68,376,888	− 3.1	+17.2
North Oregon Coast (Astoria, Tillamook, etc.)	4	20,050,353	21,068,295	16,812,593	− 4.9	+19.2
Douglas, Coos Bay	5	23,981,333	27,197,837	20,238,019	−11.8	+18.5
Southern Oregon (Ashland, Medford, Grants Pass)	5	36,860,356	52,301,004	37,558,572	−29.5	− 1.9
Upper Columbia River (The Dalles, Hood River, etc.)	6	17,334,664	15,656,328	16,779,492	+10.7	+ 3.3
Pendleton area	6	20,734,046	18,337,399	18,690,304	+13.1	+10.9
Central Oregon (Bend, Prineville, Redmond)	3	13,597,934	13,488,103	9,578,736	+ 0.8	+42.0
Klamath Falls, Lakeview area	4	30,517,259	32,056,900	25,973,861	− 4.81	+17.5
Baker, LaGrande area	6	19,286,755	18,725,650	16,606,286	+ 3.0	+16.1
Burns, Ontario, Nyssa	3	11,743,081	13,181,927	8,469,863	−10.9	+38.6

BUILDING PERMITS

Building permits give an indication of building operations planned rather than actual construction under way. Care must be taken, in interpreting these data, to allow for the lag which may elapse between the issuance of the permit and the beginning of actual construction. The data have been collected by the Bureau of Business Research.

	New Residential Jan. 1948	New Nonresidential Jan. 1948	Additions, Alterations & Repairs Jan. 1948	Totals Jan. 1948	Totals Dec. 1947	Totals Jan. 1947
Albany	$ 34,132	$ 5,900	$ 27,000	$ 67,032	$ 164,438	$ 86,600
Astoria	8,500	25,000	11,695	45,195	43,326	46,505
Baker	4,000	42,500	12,000	58,500	17,800	9,100
Bend	22,700	61,223	6,575	90,498	97,895	65,290
Coos Bay	35,300	40,000	121,120	196,420	28,575	21,150
Corvallis	9,000	8,800	7,350	25,150	45,100	44,650
Eugene	119,500	11,075	21,028	151,603	197,185	103,195
Klamath Falls	24,000	14,700	71,787	110,487	28,123	23,985
LaGrande	.....	1,200	470	1,670	12,900	13,400
Oregon City	4,500	8,500	2,250	15,250	239,981	25,[illegible]
Pendleton	8,000	11,000	37,250	56,250	85,740	9,[illegible]
Portland	2,247,600	571,395	1,459,460	4,278,455	5,297,110	3,589,060
Salem	193,000	167,390	40,385	400,775	305,520	106,988
The Dalles	20,000	5,400	3,970	29,370	32,325	51,000
16 other communities	315,150	281,145	39,708	636,003	681,054	357,775
Totals	$3,045,382	$1,255,228	$1,862,048	$6,162,658	$7,277,172	$2,531,619